

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Previously Presented): A rubber kneading machine comprising:

two horizontal rolls, including an upper roll and a lower roll, disposed vertically close to each other through an intermediary of an adjusting device for allowing a gap between the upper roll and the lower roll to be freely adjusted;

driving means for rotating the rolls;

a screw extruder including a screw extruder main body having screws and configured to supply a rubber lump fed into a hopper at a proximal end to the rolls;

a circulating mechanism for kneading and mixing rubber that is formed by feeding a rubber sheet that has left the rolls to the hopper, the circulating mechanism is constructed of a winding control means for selectively winding the rubber sheet onto the upper roll by differentiating rotational speeds of the upper and lower rolls by a variable speed motor or a decelerator, and carrying means for sending the rubber sheet coming off the upper roll to the hopper;

an extrusion cylinder accommodating the screws, the extrusion cylinder is configured to be attached to and detached from the screw extruder main body and a driving mechanism thereof;

roll frames configured to support the upper and lower rolls and a distal end of the extrusion cylinder and configured to be removable; and

the driving mechanism configured to drive the roll frames and the extrusion cylinder toward or away from each other and to drive the extrusion cylinder and the screw extruder main body toward or away from each other.

Claim 2 (Original): The rubber kneading machine according to Claim 1, wherein the carrying means is a conveyor.

Claim 3 (Previously Presented): The rubber kneading machine according to Claim 2, wherein a belt conveyor is hung over the upper roll so as to guide the rubber sheet from the rolls onto the belt conveyor to feed the rubber sheet to the hopper.

Claim 4 (Previously Presented): The rubber kneading machine according to Claim 1, wherein the carrying means has a scraper, which is in contact with the upper roll at an upper level of the upper roll, peels a rubber sheet wound thereon, and then guides the rubber sheet to the hopper.

Claim 5 (Previously Presented): The rubber kneading machine according to Claim 1, wherein the carrying means is constructed of a scraper that is in contact with the upper roll at an upper portion thereof to peel off the rubber sheet wound thereon, and a conveyor for feeding the rubber sheet peeled by the scraper to the hopper.

Claim 6 (Previously Presented): The rubber kneading machine according to Claim 1, wherein

the screw extruder comprises two tapered screws that mesh each other and rotate, and an extrusion cylinder accommodating the two tapered screws, and

the extrusion cylinder has an elliptical or gourd-shaped section and is tapered in an axial direction.

Claim 7 (Previously Presented): The rubber kneading machine according to Claim 1, further comprising:

a horizontal rubber fall preventing plate in contact with the lower roll provided between the upper and lower rolls and a distal end of a collet of the screw extruder;

walls vertically provided on both sides of the rubber fall preventing plate so that the interval therebetween can be set freely;

a space formed between the walls configured to be used as a rubber reservoir; and

a detector for detecting an amount of accumulated rubber provided at an upper level of the rubber reservoir,

wherein a number of revolutions of the screws is adjustable on the basis of the amount of accumulated rubber detected by the detector.

Claim 8 (Previously Presented): The rubber kneading machine according to Claim 1, further comprising:

a horizontal rubber fall preventing plate in contact with the lower roll provided between the upper and lower rolls and a distal end of a collet of the screw extruder;

a space, formed by vertically installing walls on both sides of the rubber fall preventing plate, configured to be used as a rubber compression passage; and

a rotative plate for setting a sectional area of the rubber compression passage provided at an upper level of the space such that the rotative plate is in contact with the walls on both sides and a position of the rotative plate is vertically adjustable so as to form a rubber lump into a sheet to be supplied to the rolls by the rotative plate.

Claim 9 (Previously Presented): The rubber kneading machine according to Claim 8, further comprising:

a rubber reservoir formed at an outlet side of the rotative plate including a detector for detecting an amount of rubber in the rubber reservoir, and

a number of revolutions of the screws is made adjustable on the basis of the amount of rubber in the reservoir detected by the detector so as to permit banking of rubber in the space.

Claim 10 (Original): The rubber kneading machine according to Claim 9, wherein the detector comprises a lifting plate rotatively retained above the rubber reservoir by a hinge, and a rotational angle of the lifting plate is detected by a sensor so as to detect the amount of rubber in the reservoir.

Claim 11 (Canceled).

Claim 12 (Previously Presented): The rubber kneading machine according to Claim 1, further comprising:

clamps for removably fastening the extrusion cylinder to the roll frames and the screw extruder main body,

wherein the driving mechanism is driven in a direction for moving the roll frames and the screw extruder main body toward or away from each other.

Claim 13 (Previously Presented): The rubber kneading machine according to Claim 1, wherein

the screw extruder main body and a direct acting machine constituting the driving mechanism are disposed on a base,

the roll frames are fixed on a carriage connected to the direct acting machine, and
the extrusion cylinder is supported on the carriage such that the extrusion cylinder can
be moved in a direction in which the roll frames are moved.

Claim 14 (Previously Presented): The rubber kneading machine according to Claim
1, further comprising:

at a rubber outlet side of the upper roll, a retaining seat for a cutter configured to be
pressed into contact with the upper roll and slidable with respect to a surface of the upper roll
so as to cut rubber in a direction parallel to a roll axis.

Claims 15-17 (Canceled).